In the Claims:

1. (original) A method for treatment of an apoptosis-related disease in a subject comprising administering to said subject a therapeutically effective amount of an inhibitor of the ATRX polypeptide, in a dosage sufficient to inhibit ATRX so as to thereby treat the subject.

2. (original) A method according to claim 1 wherein the inhibitor is administered in conjunction with a chemotherapeutic agent.

3. (original) A method according to claim 1 wherein the inhibitor is an antibody.

4. (currently amended) A method according to claim 1 wherein the inhibitor is an AS fragment ~~comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:3~~.

5. (currently amended) A method according to claim 1 wherein the inhibitor is an siRNA ~~comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:4~~.

6. (original) A method according to claim 1 wherein the apoptosis-related disease is a cancer.

7. (currently amended) A method of claim 1 for potentiating a chemotherapeutic treatment of an apoptosis-related disease in a subject comprising administering to said subject a therapeutically effective amount of an inhibitor of the human ATRX polypeptide in conjunction with a chemotherapeutic agent.

8. (original) A method according to claim 7 wherein the inhibitor is an antibody.

9. (currently amended) A method according to claim 7 wherein the inhibitor is an AS fragment ~~comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:3~~.

10. (currently amended) A method according to claim 7 wherein the inhibitor is an siRNA ~~AS fragment comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:4~~.

11. (original) A method according to claim 7 wherein the apoptosis-related disease is a cancer.

12. (original) An antisense oligonucleotide having the sequence set forth in SEQ ID NO:3.

13. (original) An antisense oligonucleotide having the sequence set forth in SEQ ID NO:4.

14. (original) An expression vector comprising a nucleic acid molecule encoding the antisense oligonucleotide of claim 12 or 13.

15. (original) A process for determining the susceptibility of a subject to a chemotherapeutic treatment of an apoptosis-related disease comprising:

(a) providing the average, normal level of the ATRX polypeptide in the cells of healthy subjects;

(b) determining the level of the ATRX polypeptide in said subject;

(c) comparing the levels obtained in (a) and (b) above, a low level of ATRX polypeptide in said subject as compared to the level in healthy subjects indicating a susceptibility of said subject to a

chemotherapeutic treatment of said apoptosis-related disease.

16. (original) A process for determining the susceptibility of a subject to a chemotherapeutic treatment of an apoptosis-related disease comprising:

(a) providing the average, normal level of mRNA encoding the ATRX polypeptide in the cells of healthy subjects;

(b) determining the level of mRNA encoding the ATRX polypeptide in said subject;

(c) comparing the levels obtained in (a) and (b) above, a low level of mRNA encoding ATRX in said subject as compared to the level in healthy subjects indicating a susceptibility of said subject to a chemotherapeutic treatment of said apoptosis-related disease.

17. (original) A process for determining the efficacy of a chemotherapeutic treatment administered to a subject comprising:

(a) determining the level of the ATRX polypeptide in the subject prior to a treatment;

(b) determining the level of the ATRX polypeptide in the subject after the treatment;

(c) comparing the levels obtained in (a) and (b) above, a high level of ATRX polypeptide prior to the treatment as compared to the level after the treatment indicating efficacy of the treatment.

18. (original) A process for determining the efficacy of a chemotherapeutic treatment administered to a subject comprising:

(a) determining the level of the ATRX mRNA in the subject prior to a treatment;

(b) determining the level of the ATRX mRNA in the subject after the treatment;

(c) comparing the levels obtained in (a) and (b) above, a high level of ATRX mRNA prior to the treatment as compared to the level after the treatment indicating efficacy of the treatment.

19. (original) A process of diagnosing a cancer in a subject comprising:

(a) providing the average, normal level of the ATRX polypeptide in the cells of healthy subjects;

(b) determining the level of the polypeptide in said subject;

(c) comparing the levels obtained in (a) and (b) above, wherein a high level of the ATRX polypeptide in said subject as compared to the level in healthy subjects is indicative of a cancer.

20. (original) A process of diagnosing a cancer in a subject comprising:

(a) providing the average, normal level of a polynucleotide encoding the ATRX polypeptide in the cells of healthy subjects;

(b) determining the level of the polynucleotide in said subject;

(c) comparing the levels obtained in (a) and (b) above, wherein a high level of the polynucleotide in said subject as compared to the level in healthy subjects is indicative of a cancer.

21. (original) A process for obtaining a compound which modulates apoptosis in a cell comprising:

(a) providing cells which express the human ATRX polypeptide;

(b) contacting said cells with said compound; and

(c) determining the ability of said compound to modulate apoptosis in the cells.

22. (original) A process according to claim 21 comprising:

(a) providing test cells and control cells which express the human ATRX polypeptide at a level at which approximately 50% of the cells undergo apoptosis in the presence of an apoptosis-stimulating agent;

(b) contacting said test cells with said compound;

(c) treating said cells in conjunction with step (b) with an amount of apoptosis-stimulating agent capable of causing apoptosis in the control cell; and

(d) determining the ability of said compound to modulate apoptosis in the test cell.

23. (original) A process for obtaining a compound which promotes apoptosis in a cell comprising:

(a) providing a test cell which expresses the human ATRX polypeptide and a control cell which does not express the human ATRX polypeptide;

(b) contacting said cells with said compound;

(c) treating said cells in conjunction with step (b) with an amount of apoptosis-stimulating agent capable of causing apoptosis in the control cell but not in the test cell in the absence of said compound; and

(d) determining the ability of said compound to promote apoptosis in the test cell.

24. (original) A process for obtaining a compound which modulates apoptosis through the human ATRX polypeptide comprising:

(a) measuring the activity of the human ATRX polypeptide, or a fragment thereof having viability activity,

(b) contacting said polypeptide or fragment with said compound; and

(c) determining whether the activity of said polypeptide or fragment is modulated by said compound.

25. (original) A process for obtaining a compound which modulates apoptosis through the human ATRX polypeptide comprising:

(a) measuring the binding of the human ATRX polypeptide, or a fragment thereof having viability activity, to a species to which the human ATRX polypeptide interacts specifically *in vivo* to produce an anti-apoptotic effect;

(b) contacting said polypeptide or fragment with said compound; and

determining whether the activity of said polypeptide or fragment is affected by said compound.

26. (new) The method according to claim 4, wherein the AS fragment comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:3.

27. (new) The method according to claim 4, wherein the AS comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:4.

28. (new) The method according to claim 9, wherein the AS fragment comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:3.

29. (new) The method according to claim 9, wherein the AS fragment comprising consecutive nucleotides having the sequence set forth in SEQ ID NO:4.